



UNITED STATES PATENT AND TRADEMARK OFFICE

FIR
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,676	07/08/2003	Kenji Nagashima	10873.1245US01	9830
7590	03/17/2006		EXAMINER	
HAMRE, SCHUMANN, MUELLER & LARSON P.O. BOX 2902-0902 MINNEAPOLIS, MN 55402			HALEY, JOSEPH R	
			ART UNIT	PAPER NUMBER
				2653

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/615,676	NAGASHIMA ET AL.
	Examiner Joseph Haley	Art Unit 2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 January 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-14 and 16 is/are rejected.
 7) Claim(s) 15 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 08 July 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "collimator lens for converting the beam emitted from the light source into a substantially ***parallel*** beam" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-10 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida (US 6201228).

In regard to claim 1, Yoshida teaches an optical head comprising: a shaping element for shaping a beam emitted from a light source (fig. 1 element 13); a converging element for converging the beam that has been shaped by the shaping element on an optical recording medium (fig. 2 element 4); and a detector for detecting an electric signal based on a zeroth-order diffracted beam and a first-order diffracted beam contained in the beam that has been reflected by the optical recording medium (column 6 lines 30-34), wherein the shaping element is provided in a swingable manner so that a distance between a spot position at which the zeroth-order diffracted beam is incident on the detector and a spot position at which the first-order diffracted beam is incident on the detector can be adjusted (see fig. 5. The distance between the spots would be changed when the element is moved because the angles of incidence of the light beams on the photodetectors are changed).

In regard to claim 2, Yoshida teaches a collimator lens (fig. 1 element 2) for converting the beam emitted from the light source into a substantially parallel beam, wherein the shaping element is used for shaping the substantially parallel beam emitted from the collimator lens and is provided so as to be swingable around a swing axis that is perpendicular to a direction along which the substantially parallel beam is shaped and perpendicular to a travel direction of the substantially parallel beam (see fig. 1 element 13 and fig. 5).

In regard to claim 3, Yoshida teaches the detector has a light-receiving region for receiving the zeroth-order diffracted beam and a light-receiving region for receiving the first-order diffracted beam, and these light-receiving regions are arranged in a direction along which the zeroth-order diffracted beam and the first-order diffracted beam are shaped (fig. 4 element 26).

In regard to claim 4, Yoshida teaches the shaping element is provided in a swingable manner so that the spot position of the first-order diffracted beam can be adjusted to be in a center portion of the light-receiving region for receiving the first-order diffracted beam (it is inherent Yoshida's shaping element would be adjusted so the first order beam could be adjusted on the center portion of the photodetector).

In regard to claim 5, Yoshida teaches the light-receiving region for receiving the first-order diffracted beam is divided along a direction perpendicular to the direction along which the zeroth-order diffracted beam and the first-order diffracted beam are shaped (fig. 4 element 26).

In regard to claim 8, Yoshida teaches a polarization beam splitter for changing a travel direction of a substantially parallel beam that has been reflected by the optical recoding medium and passed through the converging element (fig. 1 element 13).

In regard to claim 9, Yoshida teaches the detector detects the electric signal based on the substantially parallel beam whose travel direction has been changed by the polarization beam splitter (fig. 4).

In regard to claim 10, Yoshida teaches the polarization beam splitter is arranged between the light source and the shaping element (fig. 13, the beam splitter is the shaping element).

In regard to claim 16, Yoshida teaches the light source and the detector are formed integrally (fig. 1 element 18).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Ando (US 6392977).

In regard to claim 6, Yoshida teaches all the elements of claim 6 except the detector has a light-receiving region for receiving the zeroth-order diffracted beam and two light-receiving regions for receiving the first-order diffracted beam.

Ando teaches the detector has a light-receiving region for receiving the zeroth-order diffracted beam and two light-receiving regions for receiving the first-order diffracted beam (fig. 4).

The two are analogous art because they both deal with the same field of invention of recording onto optical discs.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Yoshida with the photodetectors of Ando. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Yoshida with the photodetectors of Ando because it would provide better tracking accuracy.

In regard to claim 7, Ando teaches the light-receiving region for receiving the zeroth-order diffracted beam is arranged between the two light-receiving regions for receiving the first-order diffracted beam (fig. 4).

In regard to claim 9, Ando teaches the detector detects the electric signal based on the substantially parallel beam whose travel direction has been changed by the polarization beam splitter (fig. 5 elements 7 and 15).

In regard to claim 14, Ando teaches a second detector for detecting the distance between the spot position of the zeroth-order diffracted beam and the spot position of the first-order diffracted beam (see fig. 3. Finding the distance between spots is done in tracking operations).

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Ando (US 6744720).

In regard to claim 11, Yoshida teaches all the elements of claim 11 except the entrance surface and the emission surface being formed so as not to be parallel with each other.

Ando teaches the entrance surface and the emission surface being formed so as not to be parallel with each other (fig. 5).

The two are analogous art because they both deal with the same field of recording onto an optical disc.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Yoshida with the beam shaping element of Ando. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Yoshida with the beam shaping element of Ando because it would allow achromatic aberration correction function.

In regard to claim 12, Ando teaches the shaping element is formed by bonding a plurality of optical materials together, refractive indices of these optical materials being different from one another (see column 12 lines 65-68 and column 13 lines 1-3).

In regard to claim 13, Ando teaches the shaping element is formed by bonding a plurality of optical materials together, variations in the refractive indices of these optical materials depending on a wavelength being different from one another (see column 12 lines 65-68 and column 13 lines 1-3).

Allowable Subject Matter

5. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach controlling means for controlling the driving means so that the shaping element is swung based on the distance, which has been detected by the second detector.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

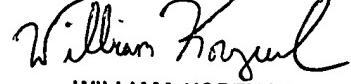
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Haley whose telephone number is 571-272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2653

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jrh 


WILLIAM KOZAK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600